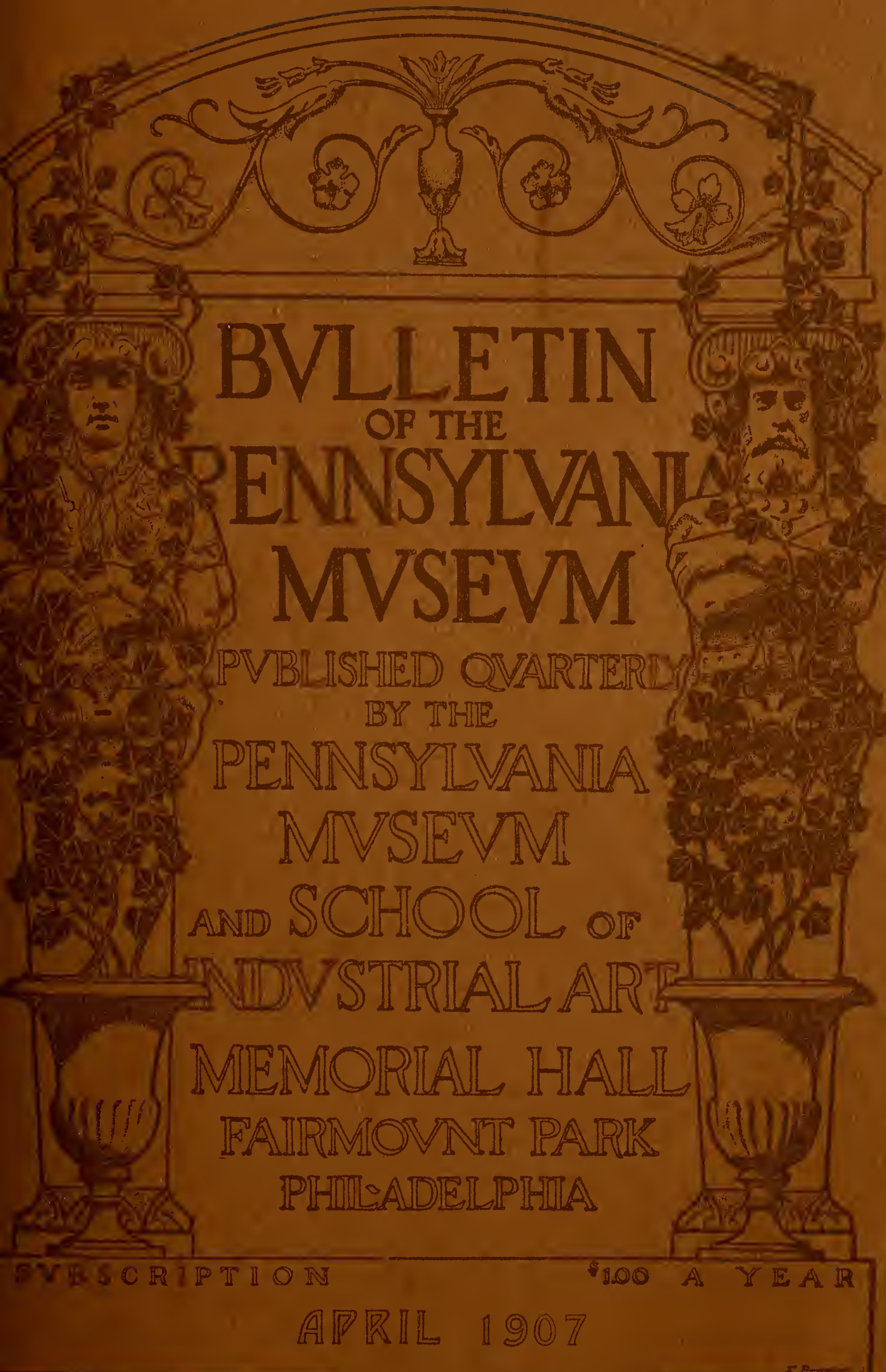

BULLETIN OF THE PENNSYLVANIA MUSEUM

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Bulletin

For April Nineteen Hundred and Seven

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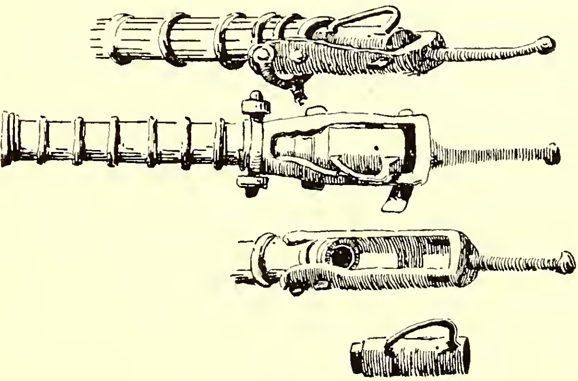
BULLETIN
OF
THE PENNSYLVANIA MUSEUM

April, 1907 FIFTH YEAR Number 18

CANNON NOTES IN THE FAR OFF PAST

This very much pruned article refers to the breech-loading cannon lately purchased by the Museum. Such were called "Chambered" or "Chamber-Pieces," because of the iron chamber which played then the important part the powder cartridge does to-day. These little cannons also masqueraded under various aliases, such as "Murtherers," "Port-Pieces," even "Culverins," etc. It is hoped that this mere glance at the many named but not absolutely harmless little weapon may not be totally devoid of interest, especially as the gun in question seems to have been "made in China."



1. CHAMBER-PIECE, OR FALCONET

Older form of built-up, hooped gun, circa 1450

Lowest piece, the "Chamber." Next above the wrought iron "Cradle," held in place by the trunnions

Next above, cannon ready for firing; a bit of the "Chase" removed to show position of ball

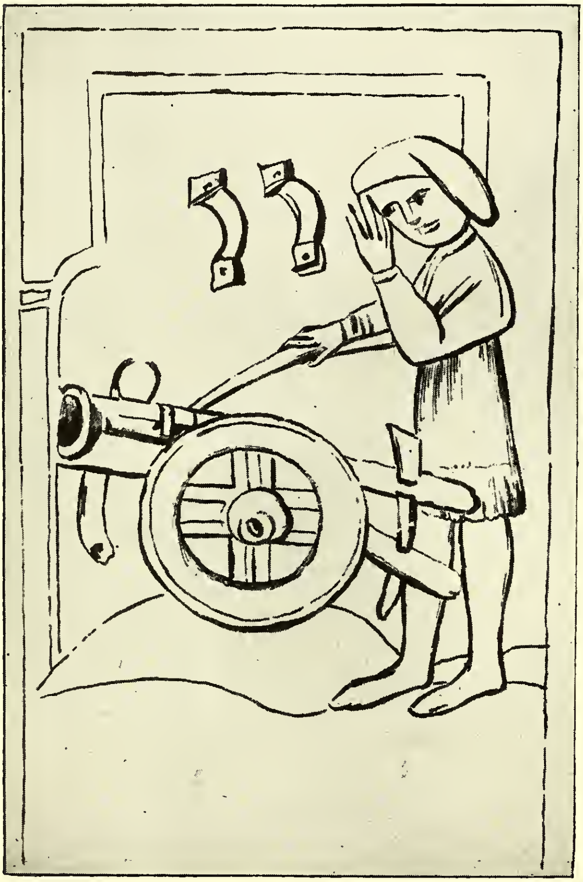
Upper view, the same from one side

Note the wrought iron "Tail," for aiming

(By courtesy of *The Mount Airy World*)

Gunpowder. Space lacking, I shall have to confine myself to merely stating the conclusions of the best authorities. One fact at least we can be sure of, that the detonating effect of gunpowder was impossible before the discovery of Saltpetre, and of that salt we find no trace whatsoever in any of the many records until we reach the XIII. century; it was probably discovered about the second quarter of that century.

Saltpetre, sal-petræ, salt of rock, as it is called in Friar Bacon's work, "De Secretis" (written before 1249), was, for some unknown reason, called by the Egyptian physicians "Chinese snow," and "barud" (*i. e.,* saltpetre) by the Arab people of the West. So says Abd Allah ibn al Baythar (Slave of Allah son of el Baythar), who died in Damascus, 1248.



2. PROBABLY THE EARLIEST CONTEMPORANEOUS DRAWING OF A CANNON
Circa 1390 to 1400
From the original manuscript in the Royal Library, Munich
(By courtesy of *The Mount Airy World*)

General Favé and Napoleon III. place the discovery of the detonating principle of gunpowder between A. D. 1270 and 1320, but add that its importance was so little appreciated that it was scarcely noticed.

"There is no trustworthy evidence, so far as I am aware, that the Chinese invented gunpowder. The statements of the Jesuits on this particular matter are worthless. * * On the other hand, we possess a number of facts which point to the conclusion that the Chinese obtained their first gunpowder and firearms from the West" (Hime, p. 135). The Institutes of Timur, c. middle of the XIV. century, contains no mention of cannon or gunpowder, although full details are given of the equipment of his troops.

"Gunpowder came from the outer barbarians," says the WUH-LI-SIAO, published in 1630. This question will necessarily be again referred to under the head of "The Earliest Cannon."

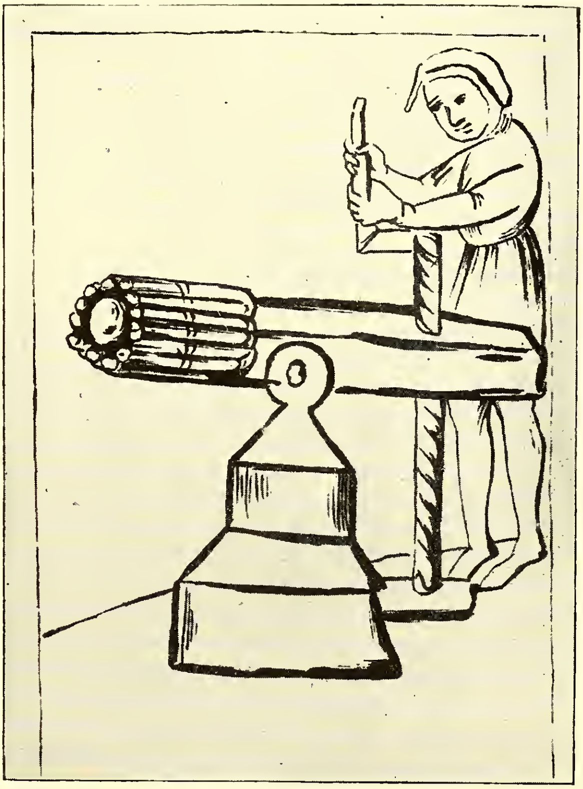
INDIA. Prof. G. Oppert in an essay "On the Weapons, etc., of the Ancient Hindus," London, 1880, proves, by the mistranslation of a very ancient Hindu work, the SUKRANITA, that the Hindus of that time possessed an explosive, which, for whatever reason, fell into disuse; he adds that "No Chinese work * * * can, with respect to antiquity, be compared with the SUKRAN-

ITA." Sir R. Burton, the eminent Orientalist, says, "Oppert shows no reason why the allusions to, and descriptions of, gunpowder and firearms should not be held modern interpolations into those absurd compositions."

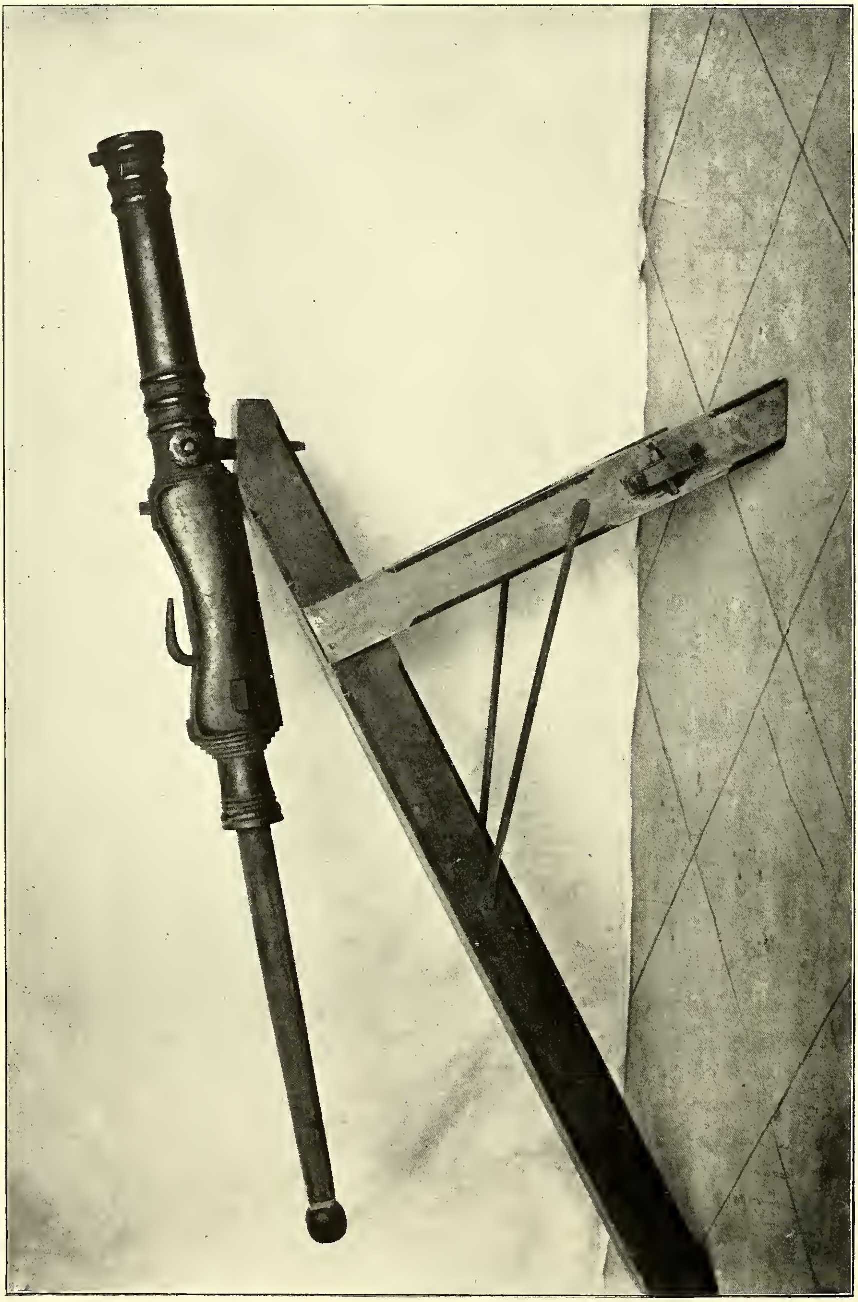
ARABS. Colonel Hime, after going over the claims of these clever chemists (they gave us the word itself, *al*, the, *Kimya*, alchemy, the "black" art) and most advanced scientists of early ages, concludes, "By whomsoever gunpowder was invented, it was not by the Arabs" (p. 104).

Among Europeans who are credited with inventing gunpowder, are, "Marcus Græcus," who lived about the end of the VIII. century. His work, the LIBER IGNIUM, is a collection of receipts for human destruction ranging all the way from about the VII. century to A. D. 1300. There exist several MS. copies of this work, but no two contain the same number of receipts, the variation being from 22 to 35. Disregarding even internal evidence, the inference seems that the work is a collection of old receipts to which from time to time additions have been made, and that Marcus himself is a myth.

Far more interesting in every way is the claim of Friar Roger Bacon (1214? to 1294), "The Admirable Doctor," a Franciscan of Oxford, with most liberal views on the subject of heresy and alchemy, a man who ranked, outside of Moorish Spain, as the most illustrious scientist of his day. His "Epistola de Secretis Operibus Artis et Naturæ de Nullitate Majiæ" is thought to have been written before 1249. Part of the work "on account of the magnitude of the secrets" in it, as Bacon explains, is written according to some cryptic method, because, as he goes on to explain, "it is madness to commit a secret to writing, unless it be so done as to to be unintelligible to the ignorant, and only just intelligible to the best educated."



3. THE EARLIEST CONTEMPORANEOUS DRAWING OF A GATLING GUN
1390 to 1400
From the original manuscript in the Royal Library, Munich
(By courtesy of *The Mount Airy World*)



4. BRONZE BREECH LOADING CANNON, OR CHAMBER-PIECE
Purchased with Income from the Temple Fund
Made in China about 1673

If the secret of the wise Friar has been guessed with even partial success, we may suppose that while he was "experimenting with some incendiary compositions * * * the mixture exploded and shattered all the chemical apparatus near it" (Hime, p. 161), including the celebrated "Brazen Head," a terrible misfortune, for, if Bacon had heard it speak he would have succeeded (?). The miraculous head spoke three times, but, unhappily, each time it was while Bacon slept; then it fell to the ground and was broken to pieces (unless it was blown to pieces):

> "Like Friar Bacon's brazen head, I've spoken,
> 'Time is, time was, time's past.'"
>
> Don Juan. i. 217. Byron.

After the smash-up Bacon certainly knew well that powder exploded, but he never seems to have advanced the next step and discovered its projectile force.

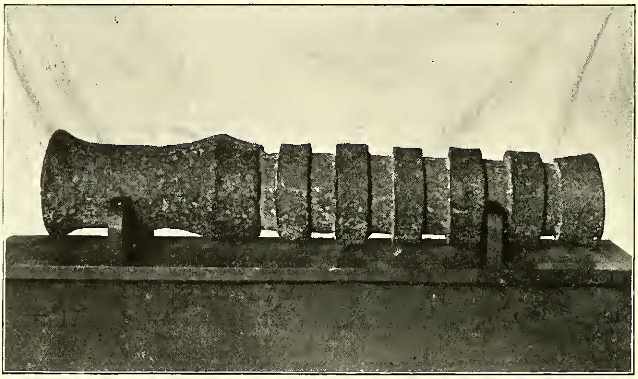
Berthold Schwartz of Freiberg is the German inventor of gunpowder, but as he appears to have made his discovery between 1320 and 1330, and as there is an absolutely authentic case of the construction of metal cannon with iron balls in 1326, it does look as if Schwartz must have had some trouble getting out a patent on his invention.

The Earliest Cannon. The word *cannon* seems to come from *canna*, Latin, a cane or reed. Possibly hollow reeds were used, filled with Greek fire, attached to the end of lances, terrifying to horses and unpleasant to their riders. Later, the same may have been used for the projection, by force of gunpowder, of some small missiles; but of this we are not sure.

There exists in beautiful Florence a Latin document whose date and authenticity have never been questioned. It is a decree of the republic, dated February 11, 1326, giving power to the priors, the gonfalonier and to twelve good men, to appoint fit persons to superintend the manufacture of cannon of brass and iron balls *(palloctas ferreas et canones de metallo)*. This is the very first authentic mention of cannon, and these little things for the defence of the Tuscan land are the ancestors of the huge destructive engines of to-day, with their 500 or more pound projectiles rending their way through the heaviest steel armor, and with a range measured in miles. What these little Florentine interlopers were like we shall never know, but considering that French cannon of twelve years later (1338) were charged with about an ounce of powder of the most miserable description, which feebly propelled a seven ounce arrow, in shape like a cross-bow bolt, we may rest assured that they were crude in construction with an effect of laughable mildness.

In 1338, however, we have unquestionable proof of the employment in England of cannons of brass and of iron (built up or wrought). John Starlying, formerly clerk of the "Ships, Galleys, Barges, Balingers, and others of the King's vessels," and Helmyn Leget, keeper of the same; June 22nd, XII. Edward III. (1338). "The said John delivered to the said Helmyn * * * ij canons de ferr sans estuff" [two cannons of iron without ammunition (?)] * * * "un canon de ferr ove ii chambers, un autre de bras ove une chambre * * * "

A very interesting question is whether the English used cannon at Cressy in 1346, because if they did it would be the first recorded instance, so far discovered, of the use of field artillery. The weight of opinion seems to prove that they had three or possibly four cannon. These would have been about the size of a blunderbus. Loading at that time was a long and wearisome job, the range was very short, the noise would have been drowned by the shouts of the fighters. With what amused amazement the seven thousand stalwart archers would have regarded such an aid, they who could twang their huge bows eight to ten times a minute, sending each time a "cloth yard arrow" two hundred and fifty yards with perfect certainty, piercing at that range armor of horse or man, armor of Milan or Germany. No portable weapon approached the long-bow in those hands until the advent of the modern repeating rifle.



5. IRON MUZZLE LOADING CANNON
Taken from the Great Wall of China in 1898
Given by Mr. R. E. Difenderfer

Edward III., immediately after his astounding victory, marched to Calais and began the siege of that town. He sent two letters to the Tower in London ordering cannon and ammunition, 20 guns with powder and lead. His guns probably threw small leaden balls, using charges of three to four ounces of powder.

Note that the "Chamber-Piece" appears at the very start. A conical shaped gun was also common. As soon as larger calibres were ventured upon the built-up system was introduced. It was briefly as follows: Bars of iron were placed longitudinally, about a core of the desired calibre, forming a cylinder the length of the gun. These bars were welded together and then strong hoops of iron were *driven*, not shrunk, along the cylinder. In the large "bombards," as they were called, such as the celebrated "Mons Meg," the "mickle mouthed murtherer," in Edinburgh Castle (made probably between 1450 and 1490), whose calibre is twenty inches and length some thirteen feet, the hoops are continuous; the powder chamber was of solid wrought iron, about half the calibre of the chase, to which it was either screwed or welded. These monsters fired stone balls, which were often strengthened by encircling iron bands.

The weak point in the Chamber-Piece was the impossibility of preventing the escape of very considerable gas at the breech. Bronze muzzle-loaders were cast about the first quarter of the XV. century, but as they were very costly on account of their material, the supply was perforce but limited. About the year 1500 cheap iron guns were cast, after which the breech-loader rapidly disappeared.

The effective range of cannon of the XIV. century was from 600 to 1000 paces.

The manner of loading the Chamber-Piece was as follows: Powder was put in the chamber and a wad or tampion of soft wood was driven down upon it. The ball, weighing from one to three pounds, was placed in the rear end of the bore, with a wad of straw or other soft material either side of it. The chamber was then put in place and forced against the end of the chase by the wedge driven in behind it. With *three* or *four* chambers the piece could be fired once in two minutes.

"When a gunner will give fire to a chamber-piece he ought not to stand on that side of the piece where the wedge of iron is put to lock the chamber of the piece, because the said wedge may through the discharge of the piece fly out and kill the gunner." These "quick-firing" guns were used, as the modern ones are, in the fighting tops of ships and were also placed on the "cage-works," the high, castle-like structures fore and aft (from whence "fore-castle"), to repel boarders; or sweep an enemy's deck. When used for this purpose they were loaded with "base, burr, musket, and other kind of murdering shot put up in bags or lanthorns." "The whole class of breech-loading guns seems to have soon lost favor. The reason is not clear, but doubtless it was due in a great measure to the growing importance of artillery attack in naval actions" ("Drake and the Tudor Navy." Corbett). So that after the Armada (1588), guns of the type we are studying seem to have been little used in European waters, which may possibly account for their appearance in the Orient. A Chamber-Piece similar to the one in question was captured in Korea by Admiral John Rogers, 1871, and is now preserved in the Museum at Annapolis.

A reason or two for supposing that the Art of Cannon Casting went from Europe to *China*. The first trustworthy account of the use of artillery in China is by a distinguished antiquary, Chao I., and was published in 1790. He states that the Emperor Yung Loh procured cannon in 1407. * * * As at that time there was constant communication between China and Europe by sea and land, there was nothing to prevent the Emperor getting cannon of any size (Hime, pp. 134, 136).

"In 1520 the heavy guns of the Portuguese ships at Canton attracted considerable attention and soon acquired the name of 'Franks' * * * The Chinese seem to have availed themselves of the assistance of the Portuguese and of their wonderful guns to punish their own pirates" ("China," etc. E. H. Parker, 1901, p. 83).

"These 'Franks,' we learn from the *Wu-pei-che*, were of iron, five or six *Ch'ih* (six or seven feet) long. * * * Five small barrels (chambers) were used, which were placed (successively) inside the body of the piece from which they were fired off" (Mayers, p. 96).

"The Chinese guns manufactured in 1618 were cast under the superintendence of the Jesuits at Peking" ("China." A. K. Douglas, p. 74).

TRANSLATION OF THE INSCRIPTION ON THE BRASS CHAMBER-PIECE:*

On the........day of the 8th moon in the Kwei-chiu year [of the Sexagenary Cycle] was cast [this] fourth Frankish [Cannon]. No. 147. Weight, 97 catties.......
Superintendent of Founding, Shen Chi-huen,
Former General Officer.
Chin Tih-huan,
Former [Lord of] 10,000 Houses, and Military Commander of this District.
Craftsman, Chin Ching-huen.

"The inscription, though in Chinese, is undoubtedly of Korean origin, as the names and official titles mentioned therein are Korean. If, as stated in your letter, the cannon was cast in the XVI. century, the year of the sexagenary cycle given corresponds to 1553."

For all the above the Museum is indebted to the courtesy of the Chinese Legation, Washington, D. C.

The years of the "sexagenary-cycles," "Kwei Chiu" (or Kui-ch'ou), mentioned in the inscription, might fall in September of the years (as well as before and after) 1553, 1613, 1673, etc., but as no regnal title is given, the *century* in which the gun was cast is indeterminable. There is, however, at the United States Naval Academy, Annapolis, a gun of similar form, differing in no essential from ours, the date of which is fixed by the inscription. This bears the name of the Emperor K'ang-hi, who reigned sixty years and died in 1722. The naval authorities date their gun 1665, and it is probable that ours is of very nearly the same decade, although the names of officers and artificers connected with the casting are all different. The two missionaries in charge of gun-casting at that time were Father Schaal and Father Verbiest.

The thanks of the Museum are also tendered to Professor Friedrich Hirth, Ph. D., Department of Chinese, Columbia University in the City of New York, who has been so very good as to examine the inscription on our cannon and to furnish us with information thereon, unattainable from any other source. Dr. Hirth, judging from certain peculiarities in the form of a character which occurs in the name of the Emperor K'ang Hi, is of the opinion that the date of our cannon is about 1673.

"From an old Chinese standard weight issued in 1679, ten taels of which represent exactly thirteen ounces," Dr. Hirth makes ninety-seven *catties* equal one hundred and twenty-six and one-tenth pounds.

The second cannon exhibited at the Museum is, apparently, a "Chinese copy" (date possibly 1500 or later), that is, a copy in cast-iron of a wrought-iron, built-up European gun of about 1400. It is made of bell-metal, silver being mixed with the iron, so that when struck with metal it gives forth a very clear sound.

CHARLES E. DANA.

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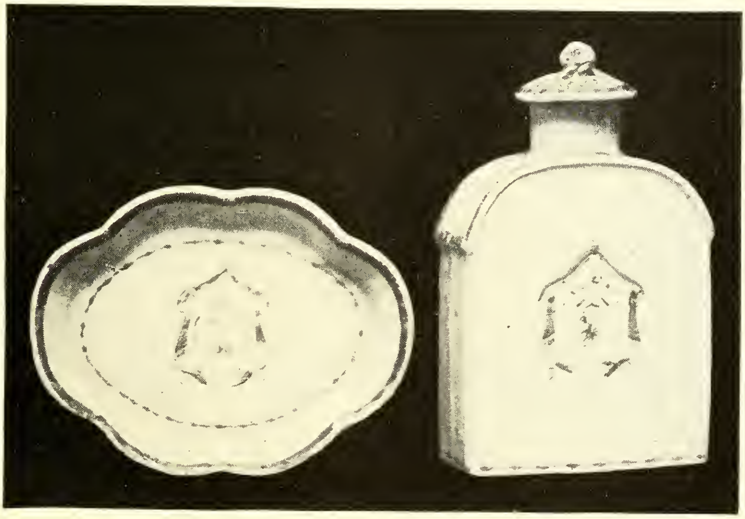
* Words enclosed in brackets are not in the Chinese original.

WHAT IS LOWESTOFT CHINA?

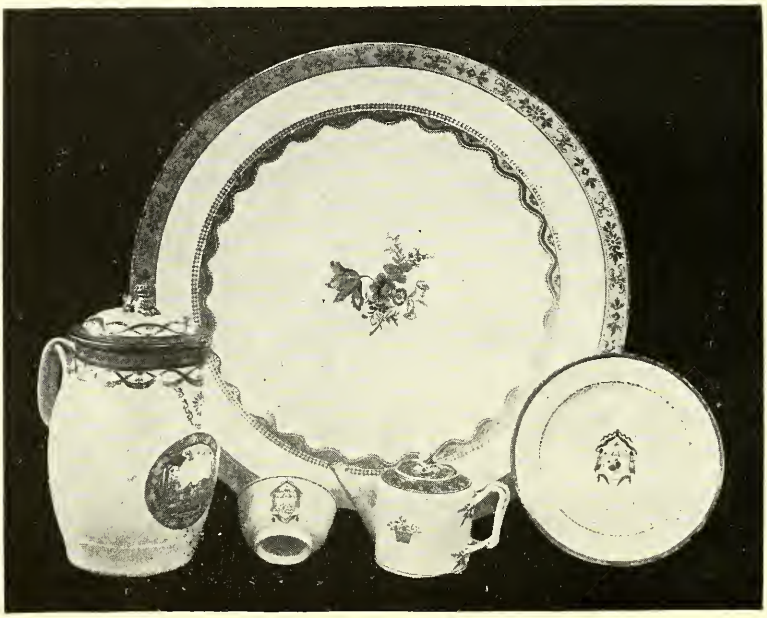
It has been a much disputed question among ceramists whether what is commonly known as "Lowestoft" china was produced in the town of that name at the easternmost point of England, or in the Orient. Prominent students are found supporting each side of the question. Others claim that the ware was made in China and sent to England to be decorated.

It is not deemed necessary here to quote from the various conflicting authorities on both sides. Those who take the ground that the ware generally known as "Lowestoft" is simply a variety of Chinese porcelain of a peculiar style and character, have the consensus of opinion in their favor. There is certainly not the slightest basis for believing that any of the Oriental products which are so common here could have been made in England. Neither have we any proof whatever that the Chinese ware was ever painted in the English town. A prominent English writer, Mr. Owen, in his *Two Centuries of Ceramic Art in Bristol,* says, "There cannot be any doubt that hard porcelain, vitrified and translucent, was never manufactured from the raw materials, native kaolin and petunse, at any other locality in England than Plymouth and Bristol. The tradition that such ware was made at Lowestoft in 1775 * * rests upon evidence too slight to be worthy of argument. The East India Company imported into England large quantities of porcelain for sale. * * This particular ware, which is very plentiful even at the present day, and which has of late acquired the reputation of having been made at Lowestoft, was



ORIENTAL "LOWESTOFT," BLUE AND GOLD DECORATION, ON HARD PASTE
Pennsylvania Museum

simply, in form and ornamentation, a reproduction by the Chinese of English earthenware models. The Chinese do not use saucers, butter boats and numbers of other articles after the European fashion, and the agents in China were compelled to furnish a model for every piece of ware ordered. These models the Asiatic workmen have copied only too faithfully. The ill-drawn roses, the coarsely painted baskets of flowers, the rude borders of lines and dots, are literally copied from the inartistic painting on the English earthenware of by-gone days. There is a tradition that Oriental ware was imported in the white state, to be painted in England. Before giving belief to this speculation, it will be necessary to consider how singular, nay, how impossible, a circumstance it is, that if this unpainted china was imported in quantities sufficient to constitute a trade, none of it should have escaped into private custody free from that miserable defacement which has been miscalled decoration."

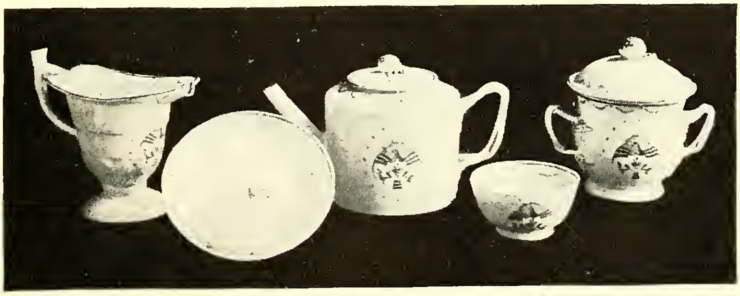


ORIENTAL "LOWESTOFT." BLUE AND POLYCHROME DECORATION
ON HARD PASTE
Boston Museum of Fine Arts

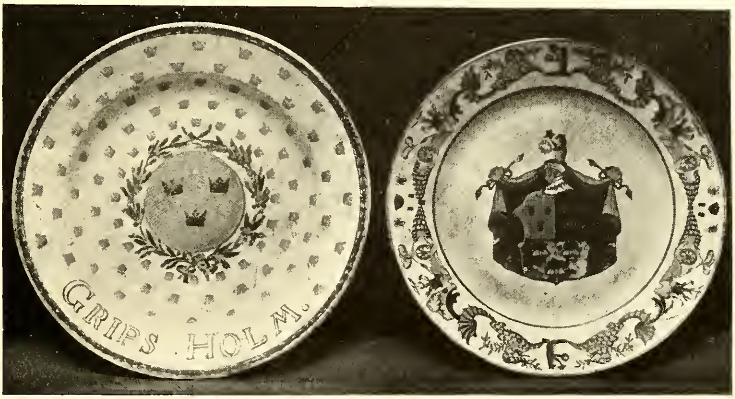
There are in many English collections numerous pieces of hard paste porcelain known as heraldic china decorated with armorial bearings, crests, etc., which are still known by the name "Lowestoft." These pieces in reality are of Chinese production, having been decorated to order in China from drawings, prints, or paintings furnished to the Oriental artist. A plate in this

Museum is a genuine piece from a table service executed in China for the royal palace at Gripsholm, Sweden.

Until recently very little was known about true Lowestoft china. The Oriental "Lowestoft" fallacy was promulgated by William Chaffers, the author of *Marks and Monograms*, and his erroneous conclusions were disseminated far and wide, so that many writers who followed him accepted them without question. In 1902, however, a remarkable discovery of pottery molds and a large quantity of fragmentary china, in all stages of manufacture, was made on the site of the original china factory in the town of Lowestoft. By means of these molds and undoubted pieces of ware, the real character of the Lowe-



ORIENTAL "LOWESTOFT," BROWN MONOCHROME DECORATION
ON HARD PASTE



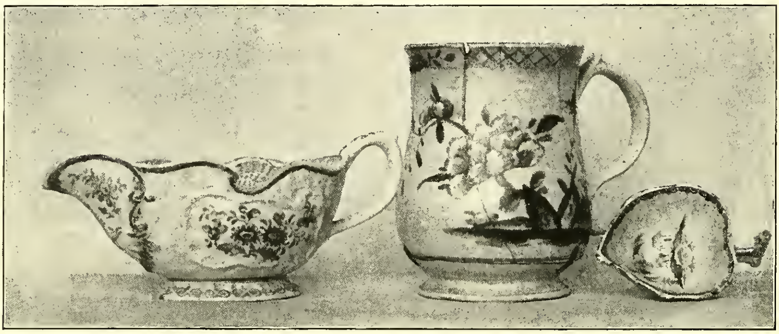
ORIENTAL "LOWESTOFT"
Made for Royal Palace at
Gripsholm, Sweden

ORIENTAL "LOWESTOFT"
HERALDIC PLATE
Decorated in Enamel Colors

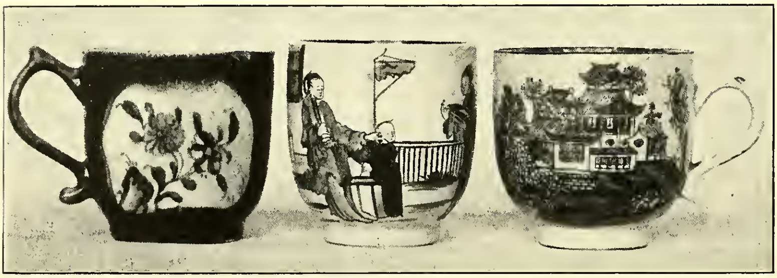
Pennsylvania Museum

stoft paste, the decorative features of the ware and the forms of vessels made there, for the first time became known.

The Museum has recently come into possession of a little group of genuine English Lowestoft china, consisting of eleven pieces, some of which were found on the site of the old factory, while others have been fully identified by means of the molds and examples of the ware which have been discovered there. These pieces are, with a single exception, the only examples of true Lowestoft porcelain, so far as we know, at present on exhibition in public collections in this country.

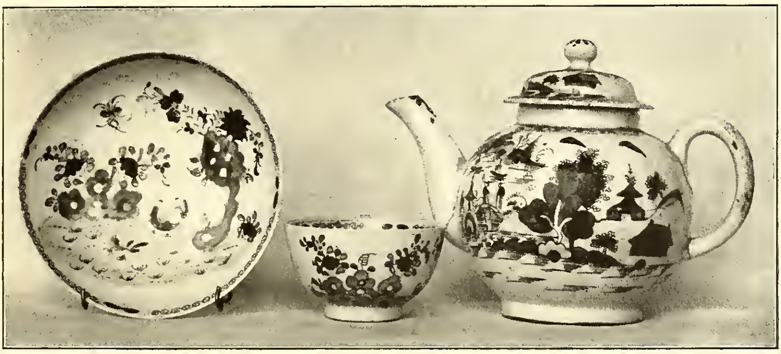


GENUINE LOWESTOFT
Decorations in Blue on Soft Paste
Pennsylvania Museum

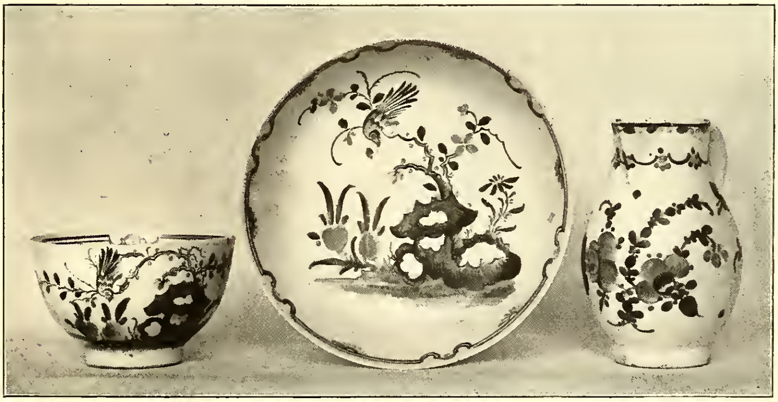


GENUINE LOWESTOFT
Decorations in Colors on Soft Paste
Imitation of Chinese (Central Cup) and Old Worcester Porcelair
Pennsylvania Museum

There were at least three distinct varieties of ware made at the Lowestoft factory. The first variety is of a whitish paste, with a bluish tinge of the glaze, decorated with blue designs. In this blue and white ware the Worcester porcelain was extensively imitated. One cup in the Museum collection is a poor copy of the Worcester "powder blue." Another is a blue transfer-printed pagoda design in close imitation of a Worcester pattern. The second variety, and perhaps the most characteristic, is of a deep cream-colored tint, on which Chinese designs in enamel colors were painted. The Worcester porcelain of the period was also imitated in this body.



GENUINE LOWESTOFT
Decorations in Colors on Soft Paste
Imitation of Old Worcester China
Pennsylvania Museum



GENUINE LOWESTOFT
Decorations in Enamel Colors
Chinese Style
Pennsylvania Museum

The third variety is evidently intended to imitate the Chinese so-called "Lowestoft" ware, as the glaze is tinted green to correspond with the Chinese product of the same character. This is a peculiar tint resembling a duck's egg, which when placed side by side with the cream-colored ware, is of a pronounced green color. On this ware Chinese designs and colors were copied. The little jug in the above illustration is a typical piece of true English Lowestoft. It is of the "duck's egg" green tint, imitating the greenish tone of some of the Chinese ware.

The study of these pieces clearly establishes the fact that the hard paste Chinese ware of this style, produced in the latter part of the eighteenth century at Ching-te-Chen, and decorated at Canton by Chinese artists for the European and American markets, was afterwards imitated at Lowestoft in the ordinary English soft paste body. The latter, however, is poorly potted and crudely decorated, and the marked peculiarities of the paste, differing materially from those of any other English porcelain, render it comparatively easy of identification.

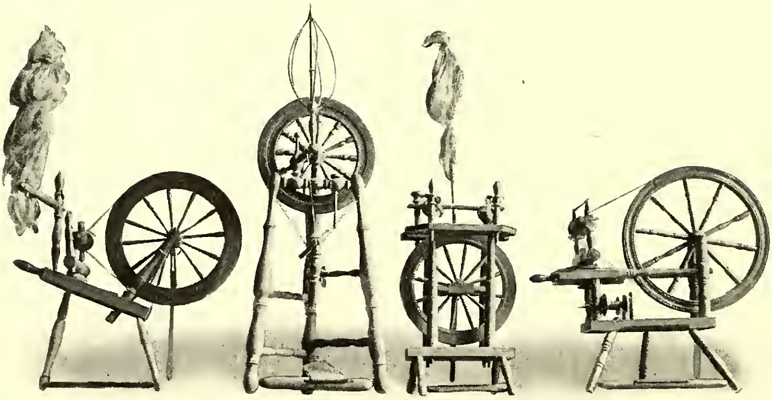
It may be safely assumed, therefore, that every piece of hard paste porcelain found in this country, which has heretofore been supposed to have been made at Lowestoft, is of Chinese origin, having been brought here either by sailing vessels directly from China, or shipped to Europe by the East India Company and brought to America by some voyager.

Edwin A. Barber.

* * *

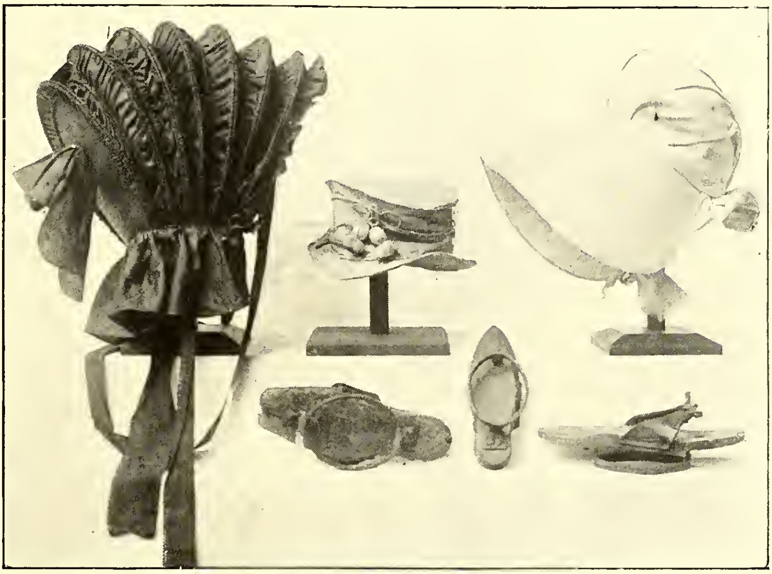
COLONIAL RELICS

In the Frishmuth Collection of Colonial relics may be seen a most interesting series of reels and spinning wheels of various forms. The accompanying illustration shows four forms of eighteenth century wheels. The one shown on



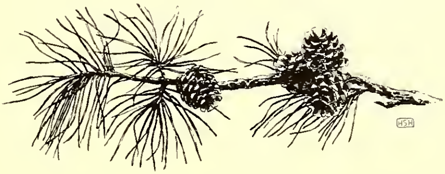
VARIOUS FORMS OF SPINNING WHEELS
IN THE FRISHMUTH COLLECTION

the left is a single flax wheel used for spinning flax. The next one is a corner flax wheel on three legs, so arranged that it can be placed in an angle. The third example illustrated is a double flax wheel used for making double twist, while the fourth is a flax wheel without distaff, also used for spinning wool.



ANTIQUE HEAD AND FOOT GEAR
IN THE FRISHMUTH COLLECTION

This collection of antiquities is of particular interest to artists and illustrators, as it includes tools of various occupations, kitchen utensils, household implements, and antique costumes. The accompanying illustration shows a few examples of head and foot gear of olden times, including a calash, or accordion-folding hood, at the left, a quaint little riding hat in the middle, and a Friend's scoop bonnet on the right. Beneath are various forms of pattens, or wooden shoes, mounted on iron rings, which were worn in slushy weather.



NOTES

It is with deep regret that we announce the death of Mr. Cornelius N. Weygandt, which occurred at his home in Germantown on February 17, 1907. Mr. Weygandt was for many years one of the most active members of the Board of Trustees of the Pennsylvania Museum and School of Industrial Art. Only three days before his death he presided at a meeting of the Executive Committee, at which time he was apparently in his usual good health.

C. N. WEYGANDT

At a recent meeting of the Executive Committee of the Board of Trustees the following resolution was adopted:

The Trustees of the Pennsylvania Museum and School of Industrial Art have learned with deep sorrow of the death of their fellow member, Mr. Cornelius N. Weygandt.

Long association with him in all the duties pertaining to his position as a member of our Board, and also of its Executive Committee, inspires us, his fellow members, to bear testimony to his zeal and fidelity in the cause of industrial education.

His interest in the School was always of a deep and thoughtful nature, and we mourn the loss of one whose services and co-operation will be sorely missed at our council table.

In paying tribute to his memory, we would testify to his high character as a man, his eminent ability in business affairs, his sagacity and untiring industry, and his attractive personality, all of which gave him a distinguished place among the prominent men of affairs of this city, and endeared him to us individually and as a body; therefore be it

Resolved, That this minute be entered upon our Minute Book and that a copy thereof be transmitted to his family.

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Tail Pieces—The Tail Pieces used in this number of the Bulletin have been designed and drawn by pupils of the School connected with this Museum.

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Attendance—In the previous number of the Museum Bulletin it was inadvertently stated that the attendance for the year 1906 was 183,089. This was the number of visitors during the last six months of the year. The total attendance for the year was 371,253; 7000 persons visited the Museum on Sunday afternoon, March 24, 1907.

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New Cases—A new floor case of the standard South Kensington pattern has been purchased for the Northeast Pavilion, in which the group of Chinese porcelains with colored glazes has been installed. Two additional table cases for silver and three new floor cases for pottery have also been procured. In the latter have been placed the collections of English lustre pottery, salt glazed stoneware and lead glazed pottery, respectively.

The Chinese pagoda cases in the East Gallery have been furnished with new cloth-covered fittings and the Oriental collections of enamels, lacquers and carvings have been entirely rearranged therein. The large case in the main aisle, containing the Fleisher collection of watches, has also been greatly improved by the addition of velvet-covered step fittings.

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ART PRIMERS—The series of Art Primers will be revised and enlarged, and reprinted in bound form by Messrs. Doubleday, Page & Company, of New York. Two of these monographs, on *Tin Enameled Pottery*, and *Salt Glazed Stoneware*, are now in press and will probably appear in April or May. Two other numbers of the series, on *Lead Glazed Pottery*, and *Artificial Soft Paste Porcelain*, are now ready for the printer, and others will follow as rapidly as possible. The Ceramic series will consist of twelve parts, covering the entire field of pottery and porcelain. The classification which has been adopted is entirely new, whereby pottery is grouped according to *glaze*, and porcelain is classified according to *body*, or *paste*. By this improved method specialists will be able to find under one cover everything of importance relating to any particular branch of the subject.

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BRASSES—In the Museum collection of brasses are several old church plaques with Scriptural subjects in repoussé work. One of these is of Scandinavian origin. The central design represents the spies returning to Moses with the grapes of Eshcol. Around the margin are figures of animals and foliated scrolls. A duplicate of this piece, in the Drake collection, recently sold in New York for $200.

The more important examples of old brass in the Bloomfield Moore collection have recently been gathered together in a case in the East Corridor. The gem of the collection is an enormous octagonal repoussé plaque, over three feet in diameter, of early Dutch workmanship, with figure decoration. This is probably the finest specimen of the kind to be found in American museums.

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WANTED—A carved mantelpiece of Louis XV. style is needed to complete the fitting up of an apartment illustrating the furniture and furnishings of that period. Friends of the Museum having knowledge of such a piece, which may be procured for the Museum collection, are requested to notify the Curator.

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APPROPRIATION—An additional appropriation, for carrying on the work of fitting up rooms in the basement, has been procured from City Councils through the Commissioners of Fairmount Park.

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VISIT OF NATURALISTS—The Delaware Valley Naturalists Union, composed of Natural History Societies in the vicinity of Philadelphia, visited the Museum in a body on February 2d. About 200 members were present. Addresses of welcome were delivered, and the Curator, assisted by some of the Honorary Curators, explained to the visitors the more important collections.

ARCHITECTURAL CAST—A plaster copy of the Memorial of Archbishop Ernest, in the Magdeburg Cathedral, by Peter Vischer, has been ordered from Cologne and will be placed on exhibition in the Rotunda at an early day.

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NEW MEMBERS—Special efforts are being made to enlarge the membership of the Pennsylvania Museum and School of Industrial Art, and already a considerable number of prominent citizens have responded. We hope to be able to announce in the next number of the *Bulletin* a gratifying increase in the number of annual and life members.

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SCHOOL NEWS—The Business Bureau of the Alumni Association of the School of Industrial Art of the Pennsylvania Museum was established April 1, 1905, to bring the employers of artisans into contact with students (both former and present) who could take positions in the crafts. Miss Isabella Bradley is the present Chairman of the Bureau. From April 1, 1905, to December 1, 1906, 145 positions, paying $83,269, were offered to members, of which 44 positions, paying $25,000, have been accepted.

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A census of former pupils showing their present occupations has just been made by Directors Stratton and France of the Art and Textile departments of the School. The results are extremely interesting and are rather surprising for the extent of direct influence of the instruction furnished here on the occupations for which it is intended to be a preparation. The list is by no means complete for it is found impossible to keep track of everybody, but of those who have attended the ART SCHOOL and whose present whereabouts are known there are reported:

Architects	22	
Architectural draughtsmen	51	
Mechanical engineers and draughtsmen	32	
Carvers, wood, stone and ivory	26	
Decorators and decorative painters	91	
Engravers and lithographers	42	
Furniture and cabinet makers, and designers	22	
General designers, upholstery, lace curtains, carpets, etc.	105	
Metal workers or designers, including jewelry and die sinking	44	
Designers of stationery, book covers, etc.	12	
Illustrators	90	
Teachers of drawing and applied art (37 are supervisors)	124	
Stained glass manufacturers and designers	16	
Art workers and designers, unclassified	57	
		734

and from the TEXTILE SCHOOL the following:

Manufacturers	86	
Managers	21	
Assistant managers, superintendents and assistant superintendents	98	
Designers	132	
Overseers	17	
Chemists	24	
Dyers	39	
Merchants	20	
Commission merchants	29	
Spinners, loom fixers, beamers, finishers, etc.	45	
Instructors in textile schools	16	
Unclassified	6	
		533
In both departments		1267

Manufacturing establishments with which former students of the School are identified, either as owners, managers, superintendents, foremen or head designers, are estimated to represent a capitalization of upwards of $30,000,000, and to give employment to more than 20,000 hands.

A Working Exhibition was held on the evening of February 15th, all the departments of the School being shown in active operation. It is estimated that fully two thousand visitors attended, among them being Governor Stuart and Mayor Weaver. The entire Associate Committee of Women acted as a Reception Committee, and the occasion was one of the most successful in the history of the institution.

Mr. Fukawa Jin Basuke, the Japanese artist who has recently been appointed instructor in water-color painting at the Minneapolis School of Fine Arts, is a former pupil of the School of Industrial Art where he studied for two years, 1897 to 1899. Mr. Basuke was a brilliant student and has achieved marked success as a painter, not only in this country but in Japan where he is recognized as one of the foremost leaders in the movement which is so rapidly transforming Japanese ideals in art as in everything else.

A new kiln for experimental work, as well as for enameling, etc., has been added to the equipment of the Pottery School as a gift from Miss Fannie S. Magee.

ACCESSIONS

January—March, 1907

CLASS	OBJECT	HOW ACQUIRED
ANTIQUITIES	Fan, Feather, Hand-painted, Chinese	Given by Mrs. M. F. Buchanan.
ARMS AND ARMOR	Cannon, Bronze, Chinese Copy of European Model, 17th Century	Bought—Joseph E. Temple Trust.
CARVINGS	Netsukes, Carvings, etc., (300). Wood and Ivory, Japan	Lent by Mr. Edmund G. Hamersly.
CERAMICS	Bowl, Pottery, Copper Lustre, Moorish, Early 19th Century	Given by Mrs. Sarah L. Hipple.
	Dish, Pottery, Palissy Style, France	Given by Mrs. Sarah L. Hipple.
	Plate, Pottery, Blue and White, Staffordshire, England, c. 1830	Given by Mrs. Sarah L. Hipple.
	Plates (2), Pottery, Tin Enamel, France, Late 18th Century	Given by Mrs. Sarah L. Hipple.
	Cruet Stand, Pottery, Maiolica, Italy, Late 18th Century	Given by Mrs. Sarah L. Hipple.
	Jug, Stoneware, Blue Glaze, Germany, probably Grenzhausen, Late 17th Century	Given by Mrs. Sarah L. Hipple.
	Pie Plate, Pottery, Slip Decorated, Connecticut, c. 1840	Bought.
	Doll, Pottery, Made by Pueblo Indians, New Mexico, Modern	Given by Mr. Charles M. Burns.
	Bowl, Pottery, Made by Pueblo Indians, New Mexico, Modern	Given by Mr. Charles M. Burns.
	Jug, Stoneware, Brown Glaze, with Relief Decorations, Bunzlau, Silesia, Late 18th Century	Bought.
	11 Pieces Porcelain, Made at Lowestoft, England, 18th Century	Bought—Special Museum Fund. Contributed for the Purchase of Art Objects.
	5 Fragments of Porcelain, Made at Lowestoft, England	Given by Mr. W. W. R. Spelman, Mr. A. Merrington Smith, and Mr. E. T. Sachs.
	Vegetable Dish, Stone China, Made by Davenport, England, c. 1830	Given by Mrs. John Harrison.
GLASS	Bottle, Engraved Decoration, probably Germany, Late 18th Century	Given by Mrs. Sarah L. Hipple.
METAL WORK	Tankard, Pewter, Engraved Decoration, Germany, Late 18th Century	Given by Mrs. Sarah L. Hipple.
	Lamp, Brass, Egyptian, c. 18th Century	Given by Mrs. Sarah L. Hipple.
	Tankard, Copper, Repoussé Decoration, Old Russian	Bought—Joseph E. Temple Fund.
	Foot Stove, Brass, Engraved and Open Decoration, German, 1725	Bought—Joseph E. Temple Fund.
	Sconce, Brass, Old Russian	Bought—Joseph E. Temple Fund.
	Miniature Frames (2), Damascene Work, showing process of inlaying gold in steel; by Felipa, Madrid, 1906.	Given by Mr. John T. Morris.
MUSICAL INSTRUMENTS	Orchestral Horn, Brass, France, c. 1790	Given by Mrs. William D. Frishmuth.
	Nanga, Wood, Primitive form, Egypt	Given by Mrs. William D. Frishmuth.
TEXTILES	Figure, Chinese Lady, in Brocade Costume	Given by Mrs. Evan Randolph.
	16 Fragments of Tapestry, France, Italy, and Flanders, 16th-19th Centuries	Lent by Mr. Charles M. Ffoulke.

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AND SCHOOL OF INDUSTRIAL ART

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Oriental Pottery	Mrs. Jones Wister
European Porcelain	Rev. Alfred Duane Pell
Arms and Armor	Cornelius Stevenson
Furniture and Woodwork	Gustav Ketterer
Musical Instruments	Mrs. W. D. Frishmuth
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